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TITLE: USE OF ALPHA-KETOGLUTARIC ACID FOR THE TREATMENT OF MALNUTRITION OR HIGH PLASMA GLUCOSE CONDITION

AMENDED CLAIMS

1. (original) A method for improving absorption of amino acids in a vertebrate, including mammal and bird, the method comprising administering to a vertebrate, including mammal and bird, in a sufficient amount and/or at a sufficient rate to enable a desired effect on amino acid absorption AKG, AKG derivates or metabolites, AKG analogues, or mixtures thereof.

2. (original) The method according to claim 1, wherein the AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof, are selected from the group consisting of alpha-ketoglutaric acid (AKG), ornitine-AKG, arginine-AKG, glutamine-AKG, glutamate-AKG, leucine-AKG, chitosan-AKG, and other salts of AKG with amino acids and amino acid derivates; mono- and di-metal salts of AKG such as CaAKG, $Ca(AKG)_2$, and NaAKG.

3. (currently amended) The method according to ~~any of the claims 1-2~~ claim 1, wherein the vertebrate is a rodent, such as a mouse, rat, guinea pig, or a rabbit; a bird, such as a turkey, hen, chicken or other broilers; farm animals, such as a cow, a horse, a pig, piglet or free going farm animals; or a pet, such as a dog, or a cat.

4. (currently amended) The method according to ~~any of the claims 1-2~~ claim 1, wherein the vertebrate is a human being.

5. (currently amended) The method according to ~~any of the claims 1-4~~ claim 1, wherein the amino acid is any essential amino acid.

6. (original) The method according to claim 5, wherein the essential amino acid is isoleucine, leucine, lysine, and proline.

7. (original) A method for decreasing absorption of plasma glucose in a vertebrate, including mammal and bird, the method comprising administering to a vertebrate, including mammal and bird, in a sufficient amount and/or at a sufficient rate to enable a desired effect on glucose absorption, AKG, AKG derivates or metabolites, AKG analogues, or mixtures thereof.

8. (original) A method for preventing, inhibiting, or alleviating a high plasma glucose condition in a vertebrate, including mammal and bird, the method comprising administering to a vertebrate, including mammal and bird, in a sufficient amount and/or at a sufficient rate to enable a desired effect on said condition, AKG, AKG derivates or metabolites, AKG analogues, or mixtures thereof.

9. (currently amended) The ~~methods according to any of the claims 7-8~~ method according to claim 7, wherein the AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof are selected from the group consisting of alpha-ketoglutaric acid (AKG), ornitine-AKG, arginine-AKG, glutamine-AKG, glutamate-AKG, leucine-AKG, chitosan-AKG and other salts of AKG with amino acids and amino acids derivates; mono- and di-metal salts of AKG such as CaAKG, and NaAKG.

10. (currently amended) The ~~methods according to any of the claims 7-9~~ method according to claim 7, wherein the vertebrate is a rodent, such as a mouse, rat, guinea pig, or a rabbit; a bird, such as a turkey, hen, chicken or other broilers; farm animals, such as a cow, a horse, a pig, piglet or free going farm animals; or a pet, such as a dog, or a cat.

11. (currently amended) The ~~methods according to any of the claims 7-10~~, method according to claim 7, wherein the vertebrate is a human being.

12. (currently amended) The ~~methods according to any of the claims 8-11~~, method according to claim 8, wherein the high plasma glucose condition is Type I or Type II diabetes mellitus.

13. (original) Use of AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof, for the manufacture of a composition for the prevention, alleviation or treatment of a high plasma glucose condition.

14. (original) The use according to claim 13, wherein the high plasma glucose condition is diabetes mellitus type I or II.

15. (original) Use of AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof, for the manufacture of a composition for the prevention, alleviation or treatment of malnutrition.

16. (currently amended) The ~~uses according to any of the claims 13-15~~ use according to claim 13, wherein the composition is a pharmaceutical composition with optionally a pharmaceutically acceptable carrier and/or additives.

17. (currently amended) The ~~uses according to any of the claims 13-15~~ use according to claim 13, wherein the composition is a food or a feed supplement.

18. (currently amended) The ~~uses~~ use according to claim 17, wherein the food or feed supplement is a dietary supplement and/or a component in the form of solid food and/or beverage.

19. (currently amended) The ~~uses according to any of the claims 13-18~~ use according to claim 13, wherein the AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof, in the manufactured composition, is in a therapeutically effective amount.

20. (currently amended) The ~~uses~~ use according to claim 19, wherein the therapeutically effective amount is 0.01-0.2 g/kg bodyweight per daily dose.

21. (new) The method according to claims 8, wherein the AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof are selected from the group consisting of alpha-ketoglutaric acid (AKG), ornitine-AKG, arginine-AKG, glutamine-AKG, glutamate-AKG, leucine-AKG, chitosan-AKG and other salts of AKG with amino acids and amino acids derivates; mono- and di-metal salts of AKG such as CaAKG, and NaAKG.

22. (new) The method according to claim 8, wherein the vertebrate is a rodent, such as a mouse, rat, guinea pig, or a rabbit; a bird, such as a turkey, hen, chicken or other broilers; farm animals, such as a cow, a horse, a pig, piglet or free going farm animals; or a pet, such as a dog, or a cat.

23. (new) The method according to claim 8 wherein the vertebrate is a human being.

24. (new) The use according to claim 16, wherein the composition is a pharmaceutical composition with optionally a pharmaceutically acceptable carrier and/or additives.

25. (new) The use according to claim 17, wherein the composition is a food or a feed supplement.

26. (new) The use according to claim 18, wherein the food or feed supplement

is a dietary supplement and/or a component in the form of solid food and/or beverage.

27. (new) The use according to claim 19, wherein the AKG, AKG derivates or metabolites, AKG analogues or mixtures thereof, in the manufactured composition, is in a therapeutically effective amount.

28. (new) The use according to claim 20, wherein the therapeutically effective amount is 0.01-0.2 g/kg bodyweight per daily dose.